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CONSTRAINTS PLACED ON MARINE CORPS AMMUNITION REQUIREMENTS BY THE PPBS

by

Donald Michael Burlingham

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Thesis Advisor: Jerry L. McCaffery

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This thesis suggests that the constraints placed on ammunition requirements are related to the lack of long-range strategic goals, inadequate planning in the PPBS and the inherent weaknesses of program budgeting.

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# Constraints Placed on Marine Corps Ammunition Requirements by the PPBS

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## ABSTRACT

To determine whether the products of the Planning, Programming and Budgeting System (PPBS) are worthwhile, they must be measured against some form of output. The Prepositioned War Reserve (PWR) of the Marine Corps is a measure of sustainability: a desired output of the PPBS. This thesis investigated the PPBS, the Marine Corps programming methodology and ammunition requirement generation to determine whether these processes artificially constrain ammunition purchases.

This thesis suggests that the constraints placed on ammunition requirements are related to the lack of long-range strategic goals, inadequate planning in the PPBS and the inherent weaknesses of program budgeting.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

# I. INTRODUCTION

## A. GENERAL

Under the assumption that resources are scarce, resource allocation in the Department of Defense is a complex process fraught with politics, heated competition and passionate advocacy. In an attempt to optimize the use of scarce resources, the objectives of the resource allocation system are divided into "four pillars" of defense: readiness, sustainability, modernization, and force structure. The DoD uses the Planning, Programming and Budgeting System to allocate resources with the goal of providing to the services the most capable mix of forces at the minimum cost. All competing initiatives must contribute to one of these outputs. Invariably, the competition for scarce resources results in tradeoffs between the "four pillars" :

Readiness--the ability of forces to fight with little or no warning.

Sustainability--the staying power of forces in combat.

Modernization--the degree that new technologies are incorporated into the forces.

Force Structure--the personnel and equipment that will prosecute the battle.

Clearly, the four outputs do not have finite limits that can be attained and then left alone while resources are devoted to other outputs.

Therefore, the entire resource allocation process can be thought of as a process of deciding how to best balance the allocation of resources among these four areas.

The scenarios and contingencies against which our forces may be pitted are limited only by the imagination. The question is "Does the mix of readiness, sustainability, modernization, and force structure that one possesses give one the requisite flexibility to respond successfully to the greatest number of contingencies?". The answer to this question is not "yes" or "no". Scenarios must be generated, analysis performed, issues reviewed and an estimate of the level of risk determined. This is the area where closest scrutiny and analysis should be focused. This thesis is an analysis of the tradeoffs within the Marine Corps among readiness, sustainability and modernization.

The Marine Corps historically has an excellent record of making the most of its resources. In short, it delivers a large "bang for the buck". To achieve this reputation, the Marine Corps has usually stressed readiness because it is the foundation upon which the Corps' mission rests. If, at any time, the Marine Corps were found to be ill-prepared or otherwise not ready to execute its mission, it may have to justify its existence to an ever-skeptical bureaucracy. For years the Marine Corps performed its mission with off-the-shelf hardware procured through the Navy and the Army. The last 15-20 years have seen a dramatic increase in the

number of programs that are Marine Corps unique like the AV-8 Harrier aircraft and programs that the Marine Corps is the principal buyer like the V-22 Osprey "tilt-rotor".

The Marine Corps is definitely thinking in terms of future modernization. Modernization emphasizes new technologies and hardware. However, an increasing emphasis on modernization means sustainability may be negatively affected. Consequently, the question this thesis poses is to what extent does the Marine Corps programming process and its product the Program Objectives Memorandum (POM) bypass future sustainability in the form of Prepositioned War Reserves (PWR) of ammunition in favor of current capability/readiness in the form of ammunition expenditure on training and employment?

## B. BACKGROUND

Ammunition is purchased by the Marine Corps under the Procurement, Marine Corps (PMC) appropriation. The aggregate "ammunition" account is broken into 14 functional subcategories that compete separately for a share of the resources alloted to ammunition in the PPBS. Generally, the Marine Corps can do one of two things with its ammunition resources: use them for training and employment or store them as part of the Prepositioned War Reserve. No higher authority tells the Marine Corps how much ammunition it can expend for training and exercises and how much to devote to the Prepositioned War Reserve on a yearly basis.

The current Defense Guidance issued by the Secretary of Defense only sets a target of 60 days of ammunition for all subcategories by FY 94. The number of days and the target date can be changed, and unless pressure is exerted on the services to meet this goal the targets may change. In order to achieve this goal, each service must program resources in future years to ammunition in sufficient amounts to cover their planned current needs (training etc.) and make marginal increases to any ammunition categories that fall below the 60 day requirement. Should the Marine Corps deviate much from the planned level of training, it would have to take resources from the PWR to cover the current shortages. Obviously, if the decision makers in the Marine Corps want to emphasize readiness, then the PWR totals may actually experience negative growth and be even further away from their goal.

The key tradeoff becomes one of readiness. Should the Marine Corps train hard and possibly let the PWR slip or should it cut back on training and devote more future dollars to the war reserves?

This is just one of the tough decisions that must be made by Marine Corps leaders, and the one certainty is that there will not be enough resources to satisfy with both the readiness and the sustainability needs of the Corps.

Not only is the target number of days required in the PWR debatable, but also the amounts of ammunition in each category must be derived from some source. The model used

to determine the estimates of the usage rates during those 60 days is also a critical factor.

The general impression, then, is that any attempts at estimating how much ammunition the Marine Corps needs to have in reserve and how long that reserve will sustain the forces is fraught with uncertainty. It becomes much easier and "painless" to focus on the present and brush aside the future as being too nebulous to warrant serious attention.

The process used to make these hard choices is the Marine Corps POM. Before fully understanding the status of ammunition as a separate, competing POM initiative, one must understand the programming process. The POM is the environment within which ammunition initiatives must struggle for resources. The Marine Corps programs in a manner best suited to its needs. No authority tells the Marine Corps how to decide which programs to submit to the Secretary of Defense for possible inclusion in the President's Budget.

It is this unique process that will get the majority of attention in this thesis and the ammunition account will be used to highlight the performance of this process in relation to its stated goals.

## C. SCOPE AND OBJECTIVES

In relation to the PPBS as a whole, this thesis will be confined to the programming phase in the Marine Corps. Within the POM process, ammunition will be singled out as a competing initiative for closer scrutiny. The

Prepositioned War Reserve will be used to illustrate the performance of the POM process in relation to a tangible output: sustainability.

This thesis will discuss the POM and inputs to the process in an unclassified manner. None of the figures, graphs or examples in this thesis were taken from classified sources.

The stated objective of this thesis is to analyze the PPBS in general and specifically the Marine Corps POM process to ascertain how perceived strengths and weaknesses of both resource allocation tools affect a specific output --sustainability.

To simply ask "Does the PPBS constrain PWR ammunition requirements?" would be rhetorical. The function of the PPBS is to pare the unconstrained planning figures of the services down into something affordable yet useful.

The products of the PPBS are the Defense Budget and the Five Year Defense Plan (FYDP). As an item in the budget, the ammunition account is also merely a product of the system. But does this product contribute to an increase in the flexibility of the service's ability to counter the threat? This question can and should be debated, but can not be answered with absolute certainty. By focusing on an output (sustainability) and the tradeoff with another output (readiness) a better understanding of resource allocation and its inherent problems is attained.

## D. METHODOLOGY

To accomplish the objective, first a review of formal structures of both the PPBS and the Marine Corps POM process was necessary. As stated previously, every service programs differently and an understanding of the Marine Corps method was critical to achieving the objective.

Because the PWR would serve as an indicator of output, several questions directly related to ammunition initiatives were investigated. Specifically, the manner by which the Marine Corps determines the amounts of ammunition needed for the PWR was researched. Once accomplished, a closer look at how the Marine Corps approached the programming of ammunition was required. To do this, the POM 90/91-94 strategy employed to help the initiative successfully compete was reviewed to reveal more of the "real" side of programming vice the formal structure already covered.

With this knowledge at hand, the PPBS was critiqued along with the Marine Corps POM process. Finally, the issue of sustainability as it relates to ammunition was analyzed to determine how the trends in ammunition procurement may adversely affect the ability of the Marine Corps to successfully respond to a future contingency.

## E. ORGANIZATION

Chapter II explains the PPBS and the Marine Corps POM process as background information. Chapter III discusses generation of the PWR ammunition requirements and details the POM 90/91-94 process at Headquarters Marine Corps using ammunition as a specific example. Chapter IV critiques the PPBS and the Marine Corps POM process. The results of this analysis are then applied to the tradeoff between readiness and sustainability as they relate to ammunition. Chapter V contains the conclusions of the author regarding the Marine Corps POM and PWR ammunition requirements drawn from the material presented in the thesis.

## II. BACKGROUND

### A. AN OVERVIEW OF THE PPBS

The Department of Defense (DoD) Planning, Programming, and Budgeting System (PPBS) is a resource management system. Introduced in 1961 under then Secretary of Defense Robert McNamara, the PPBS was adopted by President Johnson for use by all executive agencies in 1965. While the system has since been dropped by the other executive agencies, it remains the framework for DoD resource allocation. The PPBS is a cyclical process that dynamically proceeds from threat assessment to forces in being. This is accomplished in the following manner: Threat assessment leads to the development of strategies to counter the perceived threat. To support the strategies, requirements are developed which initiate programs to fulfill the requirement. Once a balanced mix of programs is achieved, the budgeting of funds is accomplished to physically procure the programs. The preceding was a gross simplification of the PPBS, and the rest of this discussion will better explain this process by focusing on each of the three distinct phases: planning, programming, and budgeting. Figure 2-1 illustrates these three phases and synopsizes events within them.

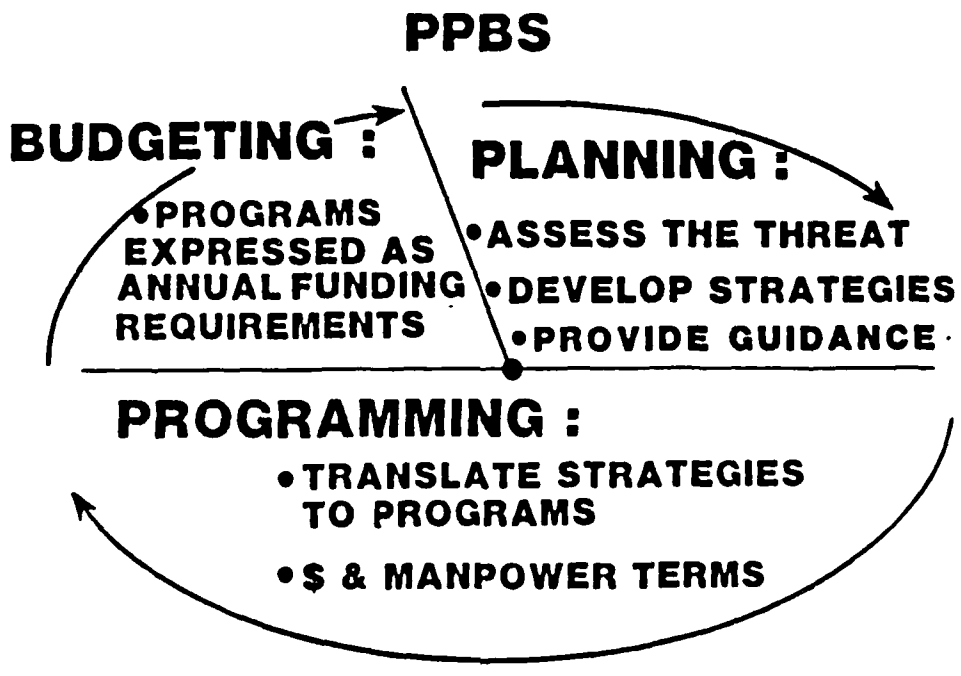


Figure 2-1. The Phases of the PPBS

1. Planning

The planning phase identifies the threat facing the nation during the next 5-20 years, assesses our capability to counter it, and recommends the forces necessary to defeat it. Planning highlights critical needs and examines risks if recommended goals are not attained in order to guide resource decisions. [Ref. 1:p. 3]

The planning phase begins with the formulation of national security policy through the National Security Council system and is implemented via National Security Decision Directives. The key documents during this phase are the Joint Long-Range Strategic Appraisal (JLRSA), the Joint Strategic Planning Document (JSPD), the Draft Defense Guidance, and finally the Defense Guidance (DG). The JLRSA is the transitional document from long-range to mid-range strategic planning. It provides a general framework for broad force structure implications and assesses military policies, plans and programs that have mid- or long-range implications. Lastly, this document acts as the catalyst to more sharply focus strategic studies. [Ref. 1:p. 14]

The JSPD is a comprehensive military appraisal of threats to U.S. interests and objectives. It contains a statement of recommended military objectives and strategies to attain national objectives. The JSPD also contains an appraisal of capabilities and risks associated with programmed force levels and changes where appropriate.

This document is used in the development of the Draft Defense Guidance. [Ref. 1:p. 15]

The Draft Defense Guidance is issued to solicit comments on major issues, problem areas and resource constraints that may interfere with the development and programming of forces to execute desired policy and strategy.

The output of the planning phase is the final version of the DG which is issued by SecDef. It is an authoritative statement which directs defense policy, strategy, force and resource planning, and provides fiscal guidance for the development of Program Objectives Memoranda (POM). Fiscal guidance in the DG is given at Total Obligational Authority (TOA) levels for each of the next five years. The services use the DG to develop their individual POM's, while the Office of the Secretary of Defense (OSD) and the Joint Chiefs of Staff (JCS) use DG as a baseline for program review. [Ref. 1:p. 18]

2. Programming

The programming phase matches available dollars against the most critical needs and develops a five-year resource proposal. After this proposal is approved, it becomes the basis for budgeting action. [Ref. 1:p. 3]

Each service submits a POM in response to DG, matching money and manpower to programs over each of the next five years. The POM delineates the resource location decisions that each service has made in response

to Defense Guidance. It reflects the impact of any areas of reduced resources, proposes new initiatives, and delineates options for the use of additional funds (referred to as over guidance). The POM is presented in ten major programs:

0 - Support of Other Nations

1 - Strategic Forces

2 - General Purpose Forces

3 - Intelligence and Communications

4 - Airlift and Sealift

5 - Guard and Reserve Forces

6 - Research and Development

7 - Central Supply / Maintenance

8 - Training, Medical, Other General Personnel Activities

9 - Administration and Associated Activities

The major programs are mission oriented aggregates, each built of many program elements (PE's) which are classified under one of the major programs. The individual service's POM's are first reviewed by JCS, which provides the SecDef with an assessment of

a. the adequacy/capability of the total programmed force to meet national goals and

b. the shortcomings of the proposed force.

This assessment is made via the Joint Program Assessment Memorandum (JPAM). This document compares the programmed force (POM's) to the minimum risk force envisioned in the JSPD.

Due to overlap and/or duplication, alternatives to a POM proposal may arise. Any Defense Resources Board (DRB) member or CINC may propose topics for development into issues for further DRB consideration. From these proposed issues a number are selected and assigned to one of eight issue books. The full DRB meets to discuss the issues and measures them against DG, against available resources, and management initiatives. The DRB decisions are recorded in a set of Program Decision Memoranda (PDM) and transmitted to each service, approving their POM as modified. The PDM is the services guidance for budget submission. A clear distinction should be made here as to the difference between the POM and the budget. Although a program must be in the POM to get into the budget, they are not alike. The purpose of the POM is to assign prices to the programs that planners deem necessary. The programming phase deals with estimates of fiscal guidance and wishlists. The budgeting phase is where fiscal reality sets in and the trade-offs are made that become the budget, and therefore law. [Ref. 2:p. 2-2]

3. Budgeting

The budgeting phase refines the detailed costs and develops the service estimate required to accomplish the approved program. Following review and approval, it serves as the input to the President's Budget. [Ref. 1:p. 3]

This final phase translates the products of the planning and programming phases into annual funding requirements. Calls for Budget Estimates are issued by individual services in response to the POM, decision documents, and fiscal guidance. SecDef normally receives budget submissions on 15 September for analysis. As a result of the analyses, budget hearings are held jointly with the Office of Management and Budget (OMB). The products of these hearings are the SecDef's Program Budget Decisions (PBD). After issuance of the PBD's, the services and JCS have another opportunity to comment before the Budget Estimate is finalized and sent to OMB for inclusion in the President's Budget. The publication of the President's Budget concludes the budgeting phase of PPBS. [Ref. 3:p. 13-14] Figure 2-2 graphically depicts the PPBS.

4. Summary of PPBS

There are few critics of the PPBS that would propose abolishing this resource allocation process. To do so would create utter chaos in the DoD as well as the defense industry. However, the system is dynamic and evolves in response to specific management styles of the incumbent administration and improvements initiated by its participants when the efficient management of resources is hampered. Many perceived problems with PPBS were addressed in a memorandum issued by then Deputy Secretary of Defense Frank Carlucci in March of 1981 and have since been

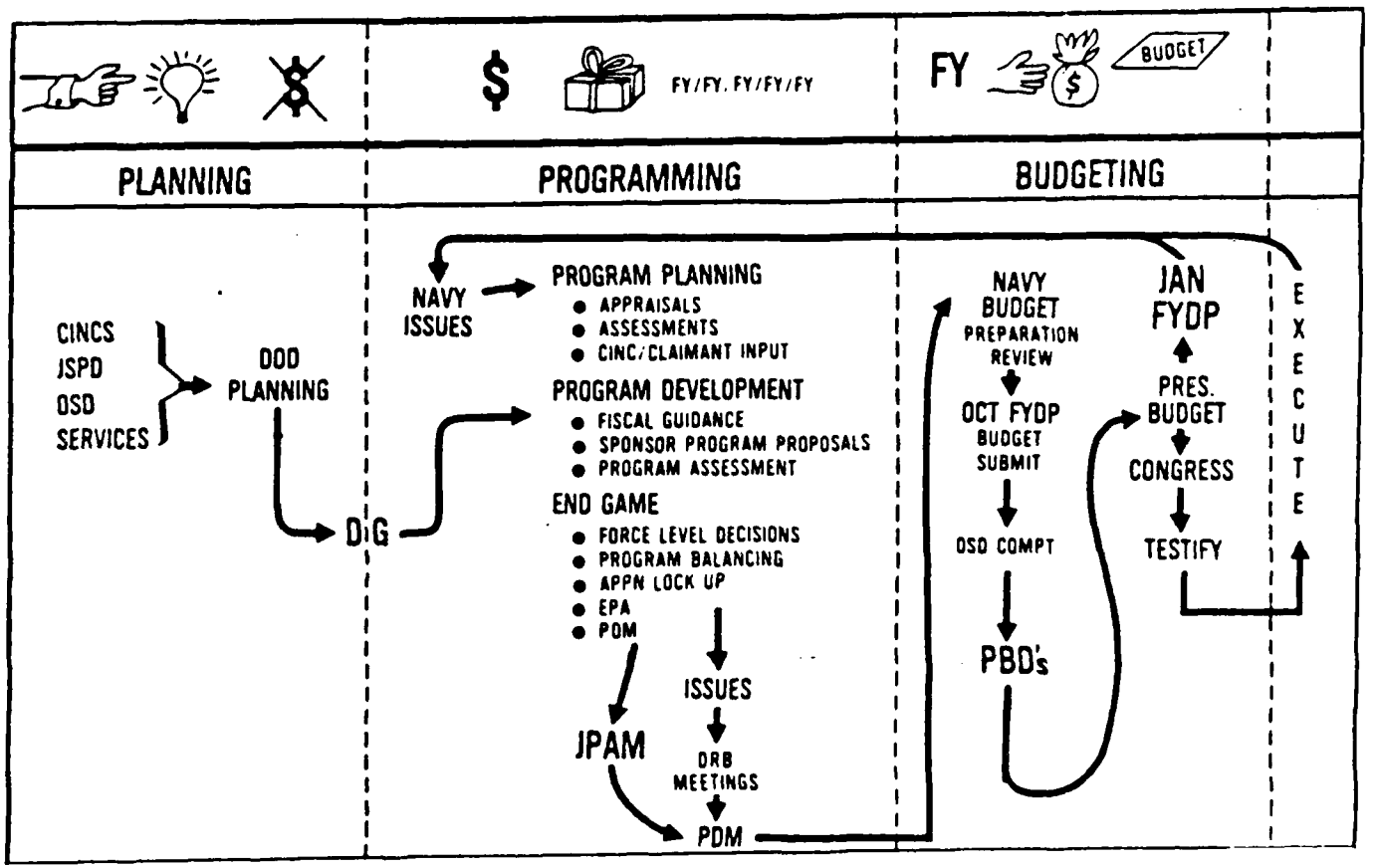


Figure 2-2. Overview of the PPBS

corrected. There will always be strident criticisms of the PPBS as it continues to seek some sort of equilibrium that satisfies its players and the decision makers in accordance with their diverse interests and motivations. These criticisms include inadequate planning, unrealistic relationship between planning and fiscal constraints and too little emphasis on outputs. These and other weaknesses of PPBS will be covered in detail in Chapter Four. An excellent overview of PPBS along with current trends, perceived weaknesses, and recommendations for remedying the weaknesses can be found in Reference 4.

5. The Five Year Defense Plan

The products of the PPBS are the Defense Budget and the Five Year Defense Plan (FYDP). To better understand the PPBS in relation to this thesis, the FYDP needs to be explained further. This document summarizes the forces and resources that are associated with the programs approved by SecDef in the various decision documents previously discussed. The FYDP contains data for prior year (PY), current year (CY), budget year (BY), and BY+1,+2,+3,and+4. For forces only, the FYDP contains data out to BY+7 years. The FYDP is composed of ten major defense programs to facilitate internal DoD program review. As a second, added dimension for review, it is structured via the Congressional appropriation structure. This two-dimensional structure provides a comprehensive approach to accounting for, estimating, identifying, and allocating

resources to the program elements. Figure 2-3 lists the ten major programs and the appropriation categories used to balance the output-oriented internal review structure against the input-oriented Congressional review structure. [Ref. 5]

## B. THE MARINE CORPS POM PROCESS

Before the issue of ammunition requirements can be addressed, a concise overview of the Marine Corps POM process is necessary. As previously discussed, the POM is the key document developed by the services during the programming phase of the PPBS. The Department of the Navy (DON) has two component services: the Navy Department and the Marine Corps. DON submits one POM, and it is composed of separate submissions from both the Navy Department and the Marine Corps. This section will explain the general process used by the Marine Corps to produce its POM for inclusion in the DON POM. Although the format and content of the service POM's are similar, each service makes its resource allocation decisions in its own unique manner. The preceding statement serves as a caveat so the reader does not assume that all POM's are developed in the same manner as the Marine Corps'.

To best illustrate the biennial POM process, this discussion will use 1990 as its hypothetical Budget Year and track the formulation of the POM. This POM would be referred to as "POM 90/91-94", with 91-94 symbolizing the out-years. For a graphic representation of Marine Corps

INPUT ORIENTED CATEGORIES

1. Research, Development, Test and Evaluation (RDT&E)
2. Procurement
3. Military Construction
4. Operation and Maintenance
5. Military Personnel Dollars

OUTPUT ORIENTED PROGRAMS

1. Strategic Forces
2. General Purpose Forces
3. Intelligence and Communications
4. Airlift and Sealift
5. Guard and Reserve Forces
6. Research and Development
7. Central Supply and Maintenance
8. Training, Medical, and Other Personnel Activities
9. Administration and Associated Activities
0. Support of Other Nations

Figure 2-3 FYDP PROGRAMS AND APPROPRIATIONS

POM development, refer to Figure 2-4 throughout the following discussion.

Before describing the step-by-step process, definitions of groups/committees which make key decisions and trade-offs are necessary.

1. POM Working Group (PWG):

A group with representatives from all sponsors which meets as necessary to work out differences in resource allocation. This group is made up primarily of field grade (O-4 and O-5) officers. [Ref. 6]

2. POM Coordinating Group (PCG):

The PCG consists of one and two-star generals and meets for the same reason as the PWG, only with less frequency. When the PCG reviews and comments on the POM, it is sent back to the PWG for action. [Ref. 6]

3. Assistant Commandant of the Marine Corps Committee (ACMC):

This three- and four-star level committee reviews and comments on the POM also. Any issues are referred to the PCG and PWG. The ACMC Committee presents the final version of the POM to the Commandant of the Marine Corps (CMC) and, unless he has any problems with it, the POM is signed and sent to DON. [Ref. 6]

Figure 2-5 illustrates the relationships between these three groups.

The Requirements and Programs (R&P) Division of Headquarters Marine Corps has cognizance of the Marine Corps POM process. The Requirement component of this

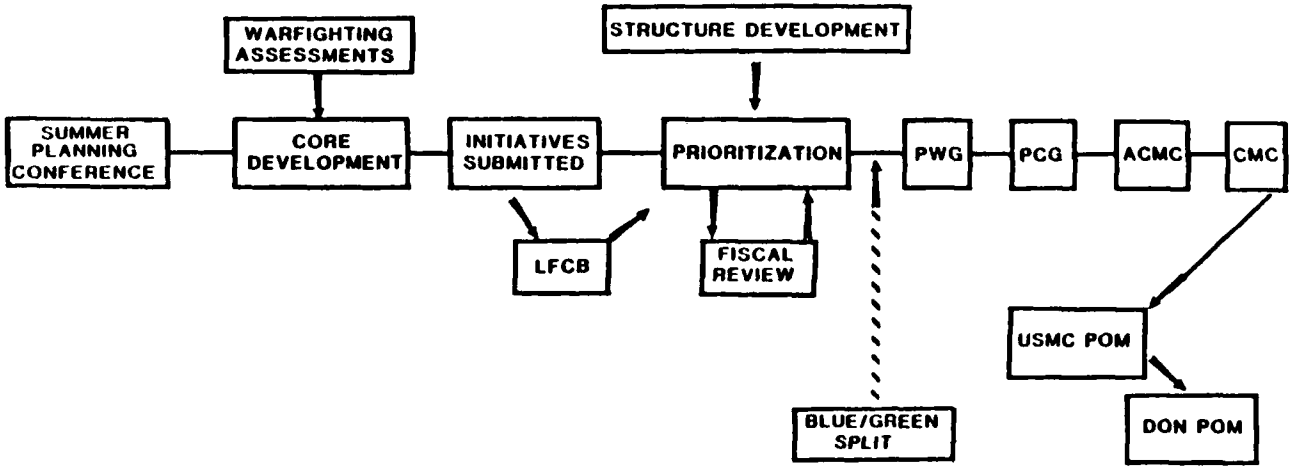


Figure 2-4. Marine Corps POM Development

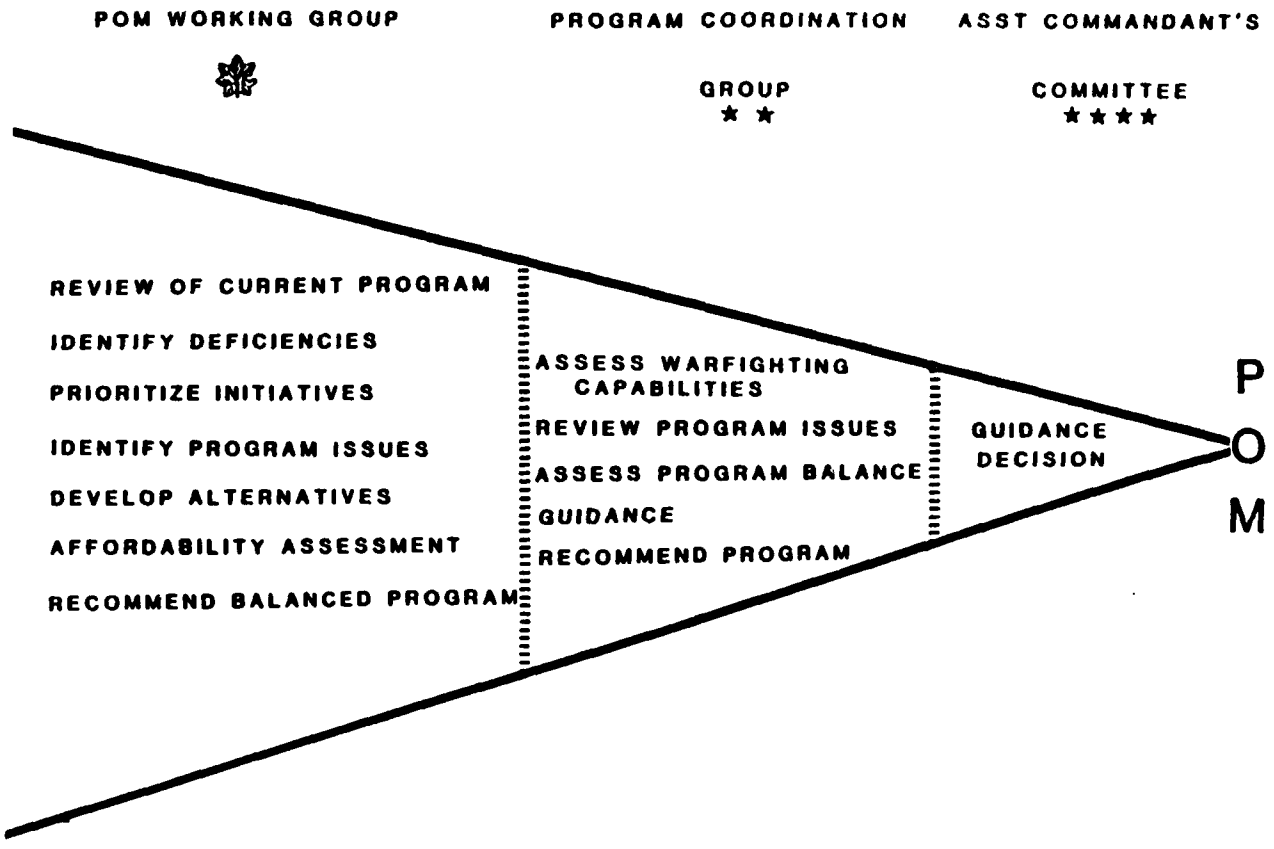


Figure 2-5. Marine Corps POM Committee Functions

branch conducts analysis prior to a programs inclusion in the POM and makes sure that all requisite tests and milestones are being accomplished as scheduled. The Program component oversees POM development and tracks prior, current and future POM's. When the PWG meets, it is chaired by R&P. The presentation of the POM to the PCG and the ACMC Committee is done by R&P also.

None of these groups work in a vacuum. To prevent needless work and unexpected surprises, advance notification of problems with a particular area or program is usually given. In fact, the members of the PWG have counterparts on the PCG and all parties prefer the bulk of the allocation process to take place at the PWG level. The PWG makes decisions that restructure spending profiles, delay program start-up and vary the quantity of procurements. The PCG confines itself mainly to serious differences with the POM as developed by the PWG. As a result, most analysis and in depth study of programs are done at the PWG level.

4. POM Development

POM development can be separated into three mutually-supporting phases. Phase I assesses current program. For POM 90, Phase I began in August of 1986 with the Summer Planning Conference. Included in this phase are update briefings of the current threat and amphibious strategy in November of 1986.

During Phase II, the Force Commanders and Marine Air Ground Task Force (MAGTF) warfighting sponsors assess the mission and capabilities, and weigh the effectiveness of this capability against future requirements. These assessments occured between January and June of 1987. A summary assessment is developed by R&P and concludes this phase. After the warfighting assessments are complete, the nuts-and-bolts of preliminary POM development begins. The objective of the POM development process is to provide the most cost effective, capable, and ready Marine Corps attainable within current resource constraints. [Ref. 7]

Core development is the analysis of all current capability programs. The goal during core development is to ascertain the amount of resources required to continue funding profiles of programs already approved in prior POM's that are in various stages of procurement. The Marine Corps bases their estimate on the "best guess" of what fiscal guidance will be via dialogue with the Marine Corps Fiscal Division, NAVCOMPT, and OSD. Once a solid figure is determined which will cover all current capability programs, an amount is added for discretionary funds which will be used to initiate new programs or augment existing ones as desired. For example: if the Marine Corps decides that $7.5 Billion will cover current capability, it may use $8.0 Billion as a planning figure, allowing $500 Million for discretionary funding. At this point the planners assume that they will get enough funding

to cover the "core" and commence the decision process that will decide where the Marine Corps will allocate its discretionary funds. Again, they assume for now that they will get the entire amount added for discretionary purposes. Core development for POM 90 occured in September - October of 1987. [Ref. 8]

As the core is developed, R&P begins issuing the POM Serials which relay CMC guidance, outline POM development methodology, promulgate administrative instructions and give the structure for initiatives. (Initiatives are formal documents giving justification for the inclusion of a program in the POM. Section C of this chapter details the contents of an initiative.) Initiatives for POM 90 were submitted between November 1987 and January 1988. Initiatives are reviewed by the Landing Force Configuration Board (LFCG) to ensure programs fit into the MAGTF doctrine. [Ref. 8]

In December of 1987, Defense Guidance 90/91-94 was published. This contains the first formal fiscal guidance that may constrain POM development. Issuance of DG/fiscal guidance coincides with the prioritization of initiatives in the Marine Corps. The entire process takes on a different light as a result of differences between the planning figure used during core development and the figure issued via DG. If there were no difference, the process would continue as planned. However, fiscal guidance could be a figure that is

a. somewhere between the core figure and the planning figure or

b. equal to or below the core figure.

In either case, marginal programs in the core and all initiatives must be prioritized to see which ones are most valuable to the Marine Corps and the execution of its mission. The prioritization process is very dynamic and subject to changes in force structure and fiscal review. Section D of this chapter is a thorough discussion of the Program Evaluation Group (PEG) and its method of prioritizing initiatives.

The period from January until May of 1988 is for final development of POM 90. Final CMC guidance was formulated and issued in January and February of 1988. The Blue/Green Split is also issued in February of 1988. This allocates to the Marine Corps its portion of the DON FYDP for use in final POM development and submission. POM 90 is reviewed and analyzed by the PWG, PCG and ACMC Committee and finally signed by CMC and submitted for inclusion in DON's POM in May of 1988. OSD reviews the POM's during June through August of 1988 and SecDef issues the Program Decision Memorandum in August of 1988. Figure 2-6 is a chronology of the Marine Corps POM development process as explained earlier. [Ref. 8]

## C. PROCUREMENT INITIATIVES

The purpose of this section is to describe the two types of procurement initiatives and explain the contents

| | EVENT | MILESTONE |
|---|---|---|
| PHASE I | | |
| 1. | Program 88/89-92 Assessment | Sep 86 |
| 2. | Intel Threat Brief | Nov 86 |
| 3. | Amphib Strategy Brief | Nov 86 |
| PHASE II | | |
| 4. | Force Commanders Warfighting Analysis | Jan 87 |
| 5. | MAGTF Warfighting Capability Assessments | Feb 87 |
| 6. | Warfighting Summary Assessment | Jun 87 |
| PHASE III | | |
| 7. | CORE Development | Sep-Oct 87 |
| 8. | POM Serials | Sep-Nov 87 |
| 9. | POM Development | Sep 87 - May 88 |
| 10. | Initiatives Submitted | Nov 87 - Jan 88 |
| 11. | DG 90/91-94 Issued | Dec 87 |
| 12. | Final POM Development | Jan - May 88 |
| 13. | Blue/Green Split Issued | Feb 88 |
| 14. | Final CMC Guidance | Jan - Feb 88 |
| 15. | POM 90/91-94 Submitted | May 88 |
| 16. | OSD Review (DRB) | Jun - Aug 88 |
| 17. | Program Decision Memorandum | Aug 88 |

Figure 2-6: Marine Corps POM 90/91-94 Biennial Development Schedule

of each. The two general types are the standard Procurement Initiative and the Procurement Initiative For MMPM Core Increase. Before enumerating the contents of each type, some background information is necessary. If a program has never been in the POM before, and therefore not in the defense budget, it must be submitted for rigorous scrutiny within the Marine Corps to ensure it meets the necessary criteria to warrant allocation of scarce resources. Part of this process is a formal Procurement Initiative. Once a program has gone through this process, it becomes part of the Material Management Programming Model (MMPM). In a way, the MMPM is the "core". It manages a program's spending profile over its life. However, if a sponsor wishes to increase any of the amounts in a particular program's funding profile that is already in the MMPM it must submit a Procurement Initiative For MMPM Core Increase. These requests must compete with any other core increase requests and all of the new initiatives for a portion of the discretionary dollars. Requests for core increase need not be in the form of a lump sum and are often requested in parts (called "bands") and each band competes separately for discretionary dollars. This strategy increases the odds of getting at least some of the resources that are desired. [Ref. 9]

1. Program Initiative

The best approach to this section is to list the main subsections of a Procurement Initiative and include

explanations whenever appropriate. The source of this information on program initiatives is Reference 10.

a. Identification--This section includes the name of the item, points-of-contact, and the MMROP identification number. (The Marine Corps Mid-Range Objectives Plan (MMROP) is a planning document that prioritizes Marine Corps mid-range objectives.)

b. Justification--This section summarizes the following key questions: What will the initiative (program) do? What will the initiative replace? What improvement in capability will this initiative provide? What will the impact be if this initiative is not acquired or the proposed change made? Is this initiative dependent on other systems/items?

c. Expected Service Life

d. Table of Organization/Table of Equipment Implications

e. Transients, Trainees, Training Overhead Implications

f. Amphibious Lift Fingerprint--All initiatives are entered into the MAGTF Lift Model data base for analysis and review by the Landing Force Configuration Board.

g. Communications Security (COMSEC) Requirements

h. Facilities--This section asks questions regarding the building of new facilities, renovation of existing facilities, and Military Construction (MILCON) funding requirements.

i. Required Documentation--This section lists all of the documentary milestones required by the particular program, when they will be/were signed along with pertinent comments.

j. Current Development and Test Status

k. Production/Pricing Information

l. Alternative of Competitive Systems

m. Preplanned Block Upgrades

n. Estimated Savings--If approval of this program will result in reductions to previous budgets, the savings are estimated and entered.

o. Cost Data--Data is divided into specific appropriations and profiled for the Budget Year, the out-years, to completion, and the totaled.

2. Procurement Initiative For MMPM Core Increase

This document, also called a "one-pager", is simple and concise. The source of the information in this section is Reference 11. It consists of the following four sections.

a. Identification--Same information as given in the Procurement Initiative.

b. Current MMPM Core Profile

c. Revised MMPM Core Profile

d. Justification

## D. MARINE CORPS PRIORITIZATION PROCESS

This section will describe the prioritization of initiatives during Marine Corps POM development. Included in this discussion are an overview of the prioritization process, the role and functions of the Sponsor's Program Evaluation Group (PEG), and an illustrative example of the pair-wise comparison method of prioritization.

### 1. Overview of the Prioritization Process

The objective of the prioritization process is to enumerate all competing initiatives and assign a relative value to the Marine Corps. Once accomplished, trade-offs and/or cuts can be made with minimum loss to the Marine Corps as fiscal constraints become a reality. The prioritization of initiatives takes place at two levels:

First the initiatives within the purview of each sponsor must be prioritized, then the lists from all of the sponsors are prioritized relative to each other. This results in a list of all initiatives with their corresponding value to the Marine Corps. The first prioritization is accomplished by the Sponsor's PEG, and the second is done by the Marine Corps PEG. After the Marine Corps PEG produces its final list, the prioritization process is complete.

2. Role of the Sponsor's Program Evaluation Group

Although this section centers on the Sponsor's PEG, the same functions and roles can be carried over to the Marine Corps PEG. The Sponsor's PEG is a group of Marine Corps officers whose professional military judgments are used by a sponsor to estimate the relative priority of its POM initiatives. The sponsor chooses these officers to acquire a broad background of experience and knowledge across various specialties. A PEG normally has at least five members and no more than nine. Like the POM Working Group, the members are usually majors and lieutenant colonels. To accomplish an informed prioritization, members must have a thorough knowledge of the Summary Warfighting Assessment and the Marine Corps Mid-Range Objectives Plan (MMROP). These two documents give the group requisite knowledge of deficiencies in warfighting capabilities and the desired direction of the Marine Corps respectively. Before the Sponsor PEG can make decisions

about initiatives, it must be educated about the merits of each one. A day or more of briefings and study is used to ensure the PEG has the opportunity to consider each initiative based on its benefit to the Marine Corps. After sufficient education, the PEG is ready to conduct a closed session under non-attribution rules to produce a single list of the sponsor's initiatives and their relative value to the sponsor. A representative from the R&P Division is present to assist the PEG in determining relative priorities but is not part of the briefing process. Although matrix theory, algorithms, and other analytical techniques are used, the judgement of the officers in the PEG is the foundation of the process. The final list is sent to the sponsor for approval. Once the sponsor approves the list, it is submitted to R&P Division for cross-sponsor evaluation by the Marine Corps PEG. The next section explains the method used for cross-section evaluation. [Ref. 12]

3. Pair-wise Comparison

To best represent the pair-wise comparison technique, a generic example with three sponsors will be used: Red, Blue, and Green. Initiatives are labeled with letters: A, B, C etc. To simplify the example, each sponsor has only five competing initiatives. The table below is a hypothetical output of the three Sponsor PEG's. The range of possible values was 0 to 100.

TABLE 2-1. OUTPUT FROM SPONSOR PEG'S

| RED | | BLUE | | GREEN | |
|---|---|---|---|---|---|
| Initiative | Value | Initiative | Value | Initiative | Value |
| A | 100 | F | 90 | K | 100 |
| B | 70 | G | 80 | L | 70 |
| C | 50 | H | 40 | M | 60 |
| D | 40 | I | 35 | N | 40 |
| E | 10 | J | 20 | O | 30 |

Note: Initiatives submitted to Marine Corps PEG: A, C, E, F, H, J, K, M, and O.

The next step is the Marine Corps PEG's cross-sponsor evaluation. To avoid the laborious task of prioritizing all initiatives of all sponsors, only the top, middle, and bottom initiative from each sponsor is sent to the Marine Corps PEG as indicated by the note at the bottom of Table 2-1.

The three initiatives from the three sponsors (total of nine) are then prioritized into a single list, with a relative value assigned to each. This list is also used to generate the factor by which all initiatives will be multiplied. The output of this prioritization is shown in Table 2-2 below.

The factors in Table 2 are then applied to the original, entire sponsor lists. Using Red as an example, the sponsor value of A (100) is multiplied by its factor of .80 resulting in a Marine Corps Value of 80. All Red

initiatives between the top and the middle initiative are multiplied by the same factor: .80. Red's middle initiative (C) is multiplied by its Marine Corps PEG factor (.50) giving it a Marine Corps Value of 25. Again, all values between Red's middle initiative and its last initiative are multiplied by the same factor of .50.

TABLE 2-2. PRIORITIZATION FROM MARINE CORPS PEG

| Initiative | Marine Corps Value | Factor (Value /100) |
|---|---|---|
| K | 100 | 1.00 |
| F | 95 | .95 |
| A | 80 | .80 |
| H | 70 | .70 |
| M | 65 | .65 |
| C | 50 | .50 |
| O | 40 | .40 |
| J | 30 | .30 |
| E | 20 | .20 |

Finally, Red's last initiative is multiplied by its factor of .20, resulting in a Marine Corps Value of 2. The same multiplication by factors is done to all sponsors, with the result given in Table 2-3.

TABLE 2-3. RELATIVE VALUES ASSIGNED BY MARINE CORPS PEG

| RED | | BLUE | | GREEN | |
|---|---|---|---|---|---|
| Initiative | Value | Initiative | Value | Initiative | Value |
| A | 80 | F | 85.5 | K | 100 |
| B | 56 | G | 76 | L | 70 |
| C | 25 | H | 28 | M | 39 |
| D | 20 | I | 24.5 | N | 26 |
| E | 2 | J | 6 | O | 12 |

Note: The values in this table represent Marine Corps values vice the Sponsor values in Table 2-1.

Finally, the initiatives from all sponsors can be placed in one list according to their Marine Corps Value and this list is used as a basis for decisions during the POM process in response to fiscally constrained guidance. [Ref. 13]

Although this is a very simplified example, it is the essence of the method the Marine Corps uses to prioritize all of the competing initiatives. Lists are not always forthcoming and a lot of discussion takes place before final lists evolve that satisfy the PEG's and the sponsors.

In summary, this chapter has reviewed the PPBS as a whole, focusing on the Marine Corps method of programming. With this background established, the current POM and the status of ammunition as a competing initiative can be understood. The next chapter discusses ammunition requirement generation and the ongoing POM process.

## III. GENERATION OF AMMUNITION REQUIREMENTS

### A. GENERAL

As explained in the introductory chapter, the Prepositioned War Reserve (PWR) is handled separately from ammunition for training and employment. Ammunition requirements are monitored in the Ground Combat section of the Plans, Programs and Operations Division at Headquarters Marine Corps. The oversight of the PWR can be split into two phases: Requirement generation and Programming. During the generation of the ammunition requirement, the objective is to determine how much ammunition is required to meet the perceived threat as dictated by OSD, JCS, and Marine Corps planners. As expected, the Marine Corps uses a model (the Class V(W) methodology) to arrive at usage rates for the various types of ammunition it will utilize in combat. These rates are then applied to a specific scenario to determine the requisite quantities of munitions necessary to win. Section B of this chapter will detail the Class V(W) methodology and discuss some of the criticisms of this model. Section C covers the recent performance of Marine Corps Ammunition Account as an initiative in the POM in general and specifically how the account has competed during POM 90/91-94 which will be finalized and submitted to the DON by May of 1988.

The intent of this chapter is to build on the foundation of information covered in chapter two by discussing the generation of the ammunition requirement and focusing on its output: the competing ammunition initiatives in the Marine Corps POM.

## B. REQUIREMENT GENERATION

The Marine Corps Class V(W) methodology was first developed in 1981. This model determines the rates of ammunition usage expected in combat and therefore drives the generation of desired war reserves (PWR) to have on hand in the event of actual conventional combat. Several studies have focused on this methodology with the intent of ensuring the rates are realistic and useful since the possible success of forces in battle may depend on adequate war reserves of ammunition. Before discussing the actual model, the assumptions which underlie it must be revealed. The Class V(W) methodology uses a non-nuclear, simulated conflict of 180 days as its only scenario. For simplicity, the model is static and employs passive, one-sided force analysis. The conflict is already "won" by friendly forces, the threat forces are fixed in size and composition, and the ammunition requirement is estimated on the basis of killing 100 percent of the threat force. [Ref. 14]

With these assumptions in mind, the reader should refer to Figure 3-1 which is a flow chart of the 27 steps in the

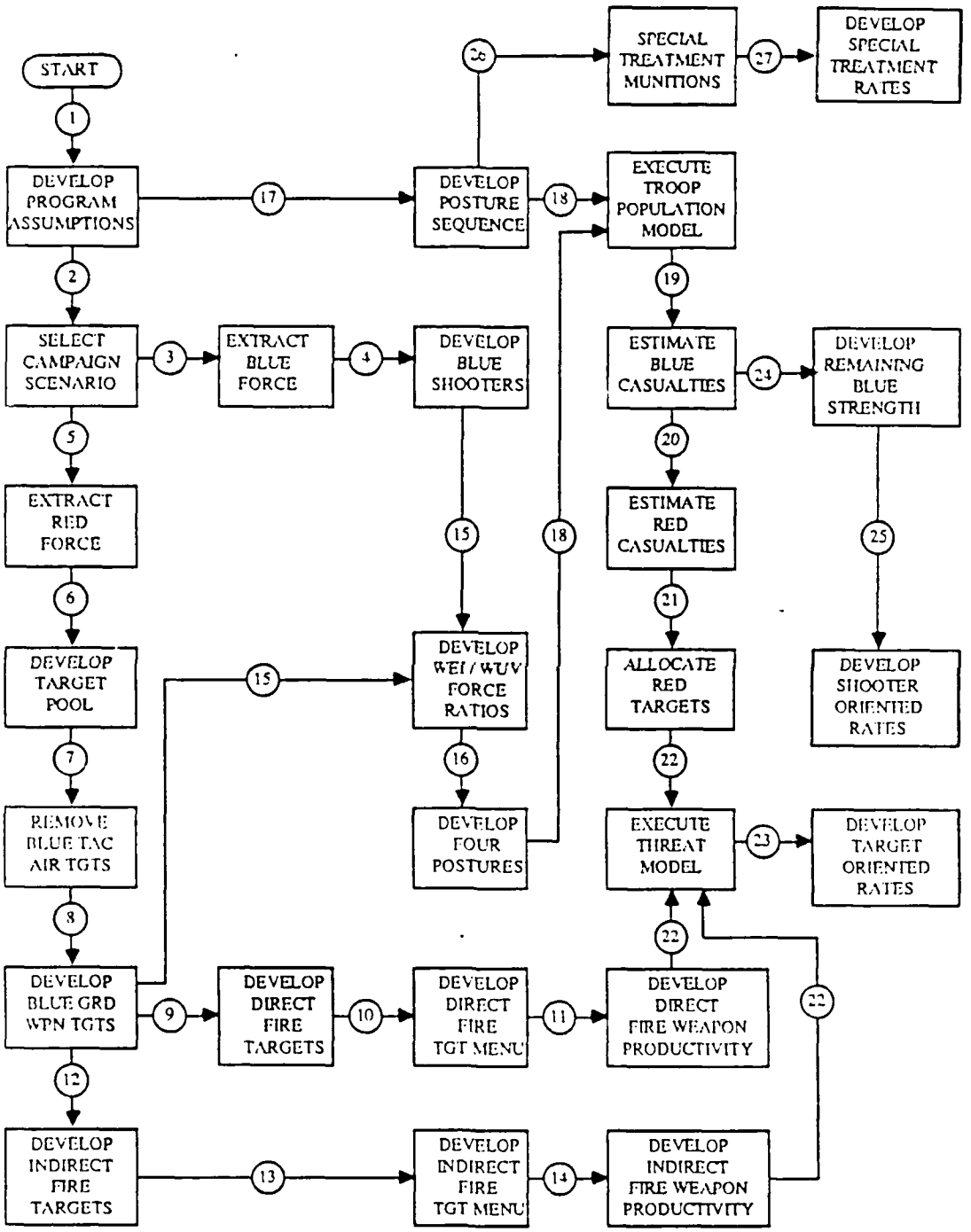


Figure 3-1. Marine Corps Class V(W) Methodology [Ref. 14]

Class V(W) methodology. Analysis of the methodology by Advanced Computer Systems, Inc. is ongoing and Reference 14 explains each of the 27 steps in greater detail. Although the analysis is very interesting and informative, it is beyond the scope of this thesis. However, highlights of the conclusions and recommendations are worth discussing. In Ref. 14, the Class V(W) methodology was praised for its simplicity and efficiency, but at the expense of validity and realism. By utilizing a single scenario, the combat planning rates (CPR's) that evolve were viewed as higher-than-necessary risk for a procurement strategy. The study recommended three scenarios (one for each Fleet Marine Force operational area) be used. The model also relies heavily on U.S. Army ammunition data which may not be applicable to Marine Corps doctrine. Additionally, the Troop Population Model also relies heavily on Army data that is massaged with subjective judgment and again may not be applicable to the Marine Corps. In summary, it was the opinion of ACS, Inc. that the model is basically sound, but weaknesses exist that may adversely affect the CPR's that emanate from it. It should be pointed out that the views of ACS Inc. do not necessarily agree with that of the Marine Corps. This study and some of its findings were included to underscore the fact that requirement generation is by no means an exact science.

A more "realistic" model is being developed and tested which addresses these and many other perceived weaknesses. Not surprisingly, early results indicate the need for higher rates. The focus on rates stems from the direct relationship between rates and dollars. If those responsible for the maintenance of the PWR advocate higher combat planning rates, they must then convince the "honest brokers" in the R&P Division that the rates are realistic and that their resultant higher resource requirements should be given high priority as POM initiatives. As will be discussed later in this thesis, this argument is very difficult for ammunition advocates to win.

Although the scenario of 180 days is used to develop CPR's, the Marine Corps is not required to have 180 days of ammunition in a reserved status. Until recently the requirement was 90 days of supply (DOS) at the assault rate, but in the latest DG this requirement was reduced to a new goal of 60 DOS by FY 94. The reader may wonder at this point if the analysis done to generate CPR's is very valuable when the DOS requirement can be manipulated to better fit the budget. The author assumes that the 90 day requirement was deemed unattainable. This was verified by inspection of current levels of reserve ammunition and the simple fact that it will be FY 94 before the 60 DOS goal is reached.

In summary, the Marine Corps uses the Class V(W) methodology to develop Combat Planning Rates that are used to estimate how much ammunition should be stockpiled to counter the perceived threat. The various types of ammunition are measured relative to the 60 DOS requirement. If ammunition dollars in the Procurement Marine Corps (PMC) appropriation are used for training or employment they can not be used for the PWR. This trade-off is one of many that exist in the POM process as it relates to ammunition, the subject of the next section.

## C. PROGRAMMING FOR AMMUNITION

As the last section pointed out, the number that is developed as an ammunition requirement is somewhat arguable. With this value, PP&O must develop initiatives that will cover the "core" for ammunition and also move positively toward the 60 DOS goal.

Before discussing the POM, a look at how the aggregate ammunition account has fared between the President's Budget and the Total Obligational Authority (TOA) appropriated by Congress would be worthwhile. Figure 3-2 shows the performance of ammunition in the 1980's. The point this graph illustrates is that when money was tight ammunition got slashed, and when money was loose (83-84) ammunition improved its position. The degree to which ammunition suffers or recovers is open to debate, but the general trend is "normal". [Ref. 15]

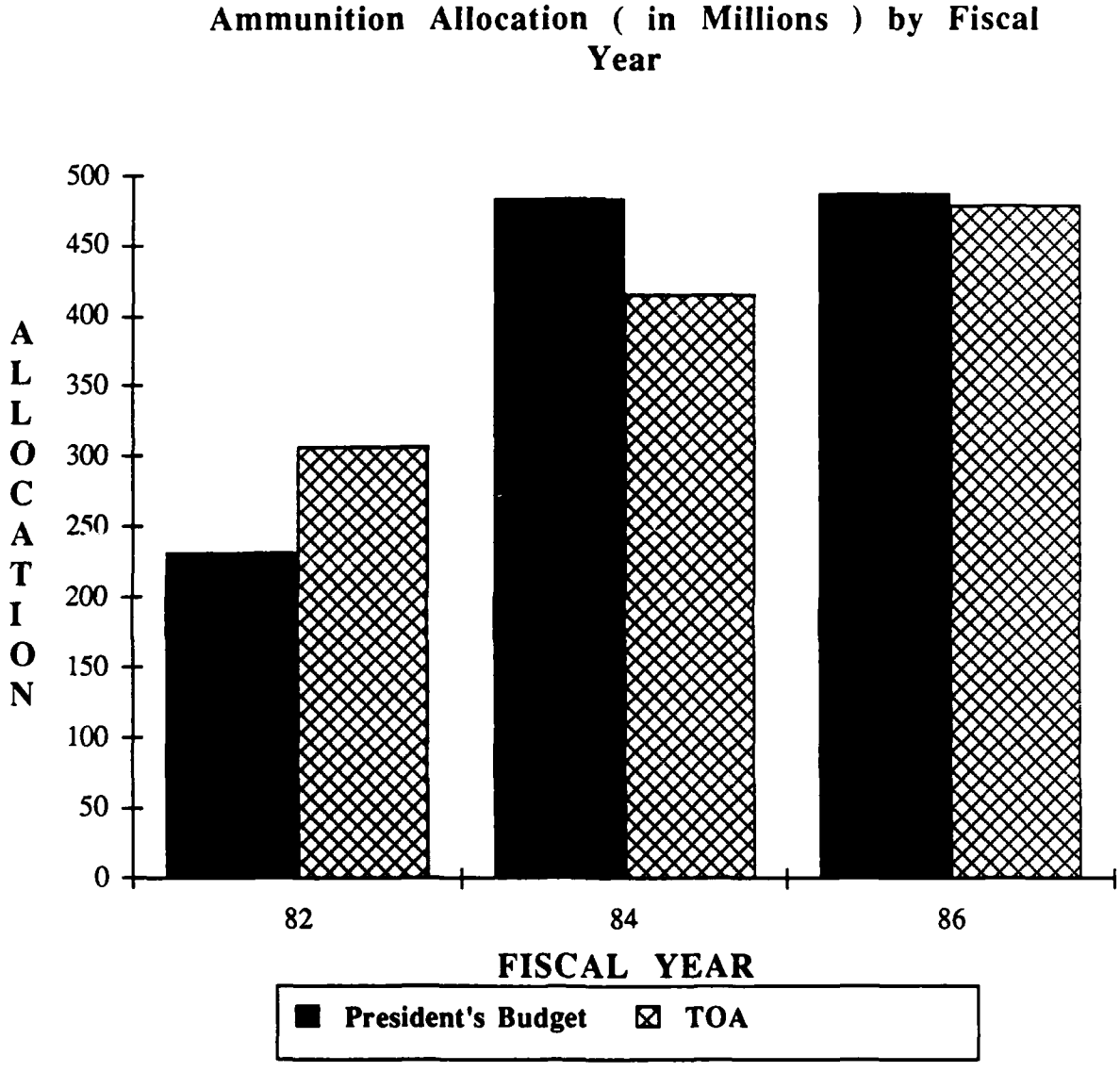


Figure 3-2. Marine Corps Ammunition Allocations

However, a closer look at ammunition through POM 90/91-94 will highlight the attitudes and approaches used to evaluate ammunition programming in the Marine Corps.

The aggregate item "ammunition" is subdivided into 14 categories in the Procurement, Marine Corps (PMC) appropriation account. The subcategories are functionally oriented (i.e. small arms, mortar, grenades etc.). The Marine Corps budgets for each of these types separately, but there is no PWR line item and it is up to the Marine Corps to devote a percentage of the subcategories resources to the PWR for maintenance and improvement.

As stated earlier, the PWR competes with training and employment ammunition requirements for dollars. Therefore, two items that may have a direct effect on training and employment (and thus an indirect effect on the PWR) are the structure of the Marine Corps and changes in planned consumption of ammunition. If resources are funneled into training and employment, the PWR may be either held at current levels or actually decrease in DOS depending on the size of the increases in current consumption. Ideally, PP&O would like to get enough money to cover its core plus enough to absorb any extra training and add to the PWR.

During the initial POM 90 process, the Marine Corps wanted approximately $9.5 Billion to cover its total core and, after adding $500 Million for discretionary funding, used a planning figure of about $10 Billion. When Defense

Guidance was issued, the Marine Corps received fiscal guidance of $9.4 Billion. With the $500 Million still included, it left a new figure of $8.9 Billion to cover the core. Since the original core of $9.5 Billion could not be covered, many initiatives previously protected in the MMPM would have to compete along with new initiatives in POM development. PP&O figured it would take $256 Million to cover the ammunition core but was given only $190 Million, a $66 Million decrement. Ammunition would have to compete with all other initiatives for a share of the $500 Million in discretionary funds to cover the $66 Million shortfall. Keep in mind that if ammunition competed successfully for all of the $66 Million it would just cover its core, implying it would just break even with no extra consumption or additions to the PWR.

The strategy used by PP&O was to submit five separate ammunition initiatives (bands), labeled AMMO I through V. AMMO I and AMMO II were for $33 Million each and if both were successful would cover the core shortfall of $66 Million. AMMO III - V asked for $25 Million each and would be used for extra training and the PWR. If AMMO III - V were all successful, it was estimated they would have collectively added 1.5 days to the aggregate DOS. Figure 3-3 shows the profile of the total days of ammunition if the entire POM 90 core of $256 Million was achieved. (Some categories of ammunition are above 60 DOS and others are

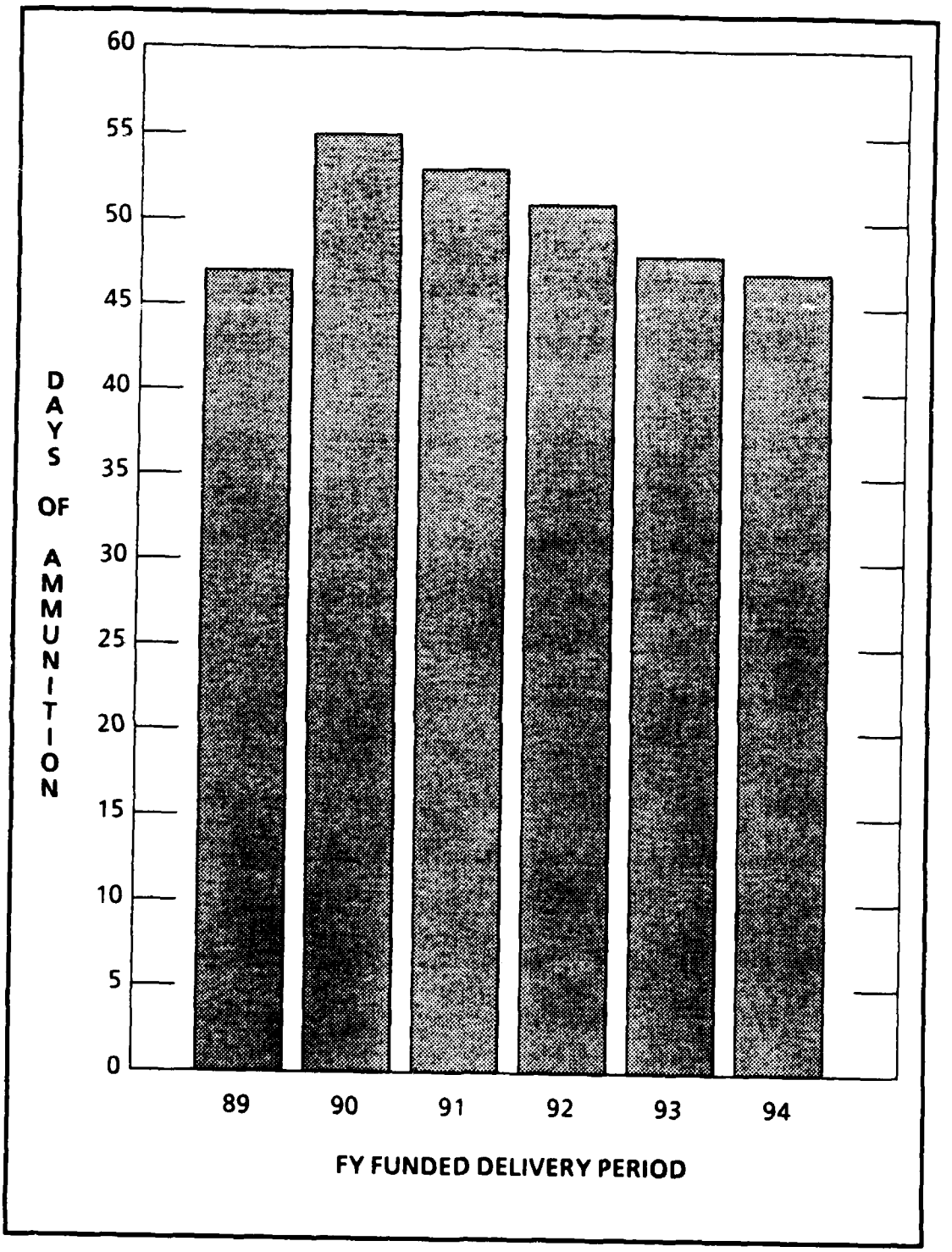


Figure 3-3. Days of Ammunition Profile

below, this graph is an aggregate to give the reader a sense of the status of the PWR.)

As part of the argument in favor of its initiatives, it was pointed out by PP&O that a decrement below the POM 90 core would cause negative growth of the PWR and hinder the attainment of the 60 DOS goal given in DG. Additionally, if more training was conducted and/or a change in Marine Corps structure executed the effects on the PWR would be aggravated.

The result of all the effort expended on behalf of the ammunition account was rather discouraging. Although POM 90 was not finalized, the AMMO I band was the only initiative that was "successful" in the POM prioritization process. AMMO I made it on the list of "over-guidance" initiatives, meaning that if funds in excess of the fiscal guidance became available AMMO I would be part of the competition for those resources. During fiscally constrained periods, initiatives on this list of "also-rans" have very little chance of getting funded. [Ref. 16]

This completes the discussion on ammunition and the Marine Corps POM process. This chapter has shown how the ammunition requirement for the PWR is generated and given the reader some insight on how ammunition competes as an initiative in the prioritization process.

In summary, the Class V(W) methodology is used to predict the utilization rates expected in combat for ammunition. These rates are converted into quantities of

ammunition and amounts for the PWR are arrived at as goals. At this time, a dollar value can be attached to the ammunition initiative. With this requirement, strategies are formed to make the ammunition initiative competitive. A synopsis of the current POM process was included in this chapter to add a dimension of reality to the discussion of the trade-off process. This example illustrated the uphill struggle that the PWR faces, and the domination of readiness considerations over sustainability issues.

## IV. EVALUATION OF THE PPBS AND THE MARINE CORPS POM PROCESS

### A. GENERAL

This chapter addresses the problems that are created with respect to ammunition as an output of the PPBS by that system. These issues will be covered first by examining the weaknesses of the PPBS in general, then the shortcomings of the Marine Corps POM process and finally the result of these faults will be detailed: the status of ammunition from the standpoint of sustainability.

It should be stated that the PPBS has been thoroughly examined and critiqued on numerous occasions in the past. The President's Blue Ribbon Commission on Defense Management in 1986 and the recent passage of the Goldwater-Nichols DoD Reorganization Act are both current examples of this ongoing scrutiny. The author does not pretend to add to this body of knowledge. Rather, it is the intention of this chapter to make the link between these criticisms and the sustainability issue.

The purpose of the first section of this chapter is to present the most pertinent, PPBS related issues and discuss them in the context of their ineffectiveness at contributing to one of the "four pillars" of defense.

### B. PPBS ISSUES

When the PPBS first came to the DoD in the 1960's it was heralded as a "revolution" because it was able to cut

across the traditional service-oriented lines. Initially, greatest emphasis was placed on the quantified cost estimates and the effectiveness of programs. This gave then Secretary of Defense McNamara and his analysts a distinct advantage, mainly because this type of analysis had not been attempted before and none of the services was equipped to dispute the analysis carried out by OSD. The initial analysis was ill suited for the area of conventional forces because of multiple and overlapping missions. Therefore, conflicts between OSD and the services over general purpose forces were common.

As the services took a more active role in analysis and program evaluation, a lot of this previous friction that existed between them and OSD was reduced. However, there are more problems with the PPBS than the initial lopsided ability to judge the benefits of a program.

Supposedly, the PPBS was designed to help the decision makers better answer the critical question "How much defense spending is enough?". During the 1960's, the Kennedy and then the Johnson administrations were determined to pull away from an over reliance on nuclear weapons. Challenges to national security were to be met with "proportional responses". The belief was held that the United States could not threaten the use of nuclear weapons in every contingency, and to maintain credibility the U.S. must develop the conventional might flexible enough to counter a threat that does not warrant the

utilization of nuclear forces. Accomplishing this goal would be expensive, and from the outset it was understood that minimum cost for maximum capability (minimax) was crucial to success.

Initially, McNamara had full support of Congress because it believed in the theory and also because the Congress was not prepared to dispute the analysts at OSD either. This friendly environment does not exist today. Since the inception of PPBS, the role of the Office of Management and Budget (OMB) in the executive branch has expanded considerably. Also the Congress now has its own analytical capability--the Congressional Budget Office (CBO)--and has additional staffing on the Budget Committees in the legislative branch. [Ref. 17:p. 94]

The question of whether the right amount was allocated for defense can never be answered with absolute certainty, but it is imperative that the level of risk the U.S. is willing to accept and estimates of opportunity costs of defense expenditures receive continual scrutiny lest we ignore any indicators of neglect.

Since the defense budget currently contains over fifty percent of the "controllable" or discretionary funds in the federal budget [Ref. 17:p. 94], it will undoubtedly continue to negatively absorb changes in government spending resulting from shifts in fiscal policy. Such being the case, the following issues hinder the flexibility of the PPBS and degrade the value of its output.

1. Ineffective Strategic Planning

The strategic planning conducted during the planning phase is ineffective at influencing the output of the PPBS. It has been suggested that the first "P" in PPBS is silent [Ref. 4:p. 493] for this reason. This particular criticism exists because long-range resource allocation planning is not adequately linked to the decisions that occur in the programming and budgeting phases. The causes for this weakness begin with the domination of planning by the latter phases. In fact, while planning is supposed to direct the subsequent phases of the system, the reverse is true. The OSD has also been criticized for focusing its attention primarily on immediate problems, creating this "tail wagging the dog" effect. Budgeting is the most present oriented phase. But to get in the budget, a program must get into the POM. This requires the services to look ahead, but even the out-years of the POM are tentative at best and what gets the majority of attention is the budget year. The critical input of the Joint Chiefs of Staff (the JLRSA and JSPD) often gets ignored in this competition when it should be the catalyst of the process. Additionally, it is extremely difficult to arrive at a consensus among all the players that is a coherent military strategy. [Ref. 4:p. 493]

The actual process of strategic planning can be characterized as influencing "programs and resource allocations. . .in a spasmodic and usually unstructured

way." [Ref. 4:p. 494] It would seem such a process does not command much respect within the PPBS if it is indeed so loosely structured.

2. Relationship Between Planning and Fiscal Constraints

An inconsistency develops when limited, finite resources are stretched to cover expanding missions in response to an ever threatening adversary. Symptomatic of this situation are the widening gaps between the recommended planning force, the programmed (POM) force and the actual capability achieved after Congress acts on the President's budget. Reasons for these gaps include the aforementioned planning problems and the fact that planning is fiscally unconstrained. By developing the JSPD in this idealistic environment, this phase of the system begs to be ignored. One may argue that this would be an excellent source of opportunity costs, but the relationship has gotten so distorted that its usefulness for this purpose is minimized. [Ref. 4:p. 497]

3. Unrealistic Fiscal Guidance

The lack of usable fiscal guidance merely results in the deferment of difficult decisions into the programming and budgeting phases, thereby adding to their significance and detracting from that of the earlier decisions. To reap the full benefit of the PPBS, the initial fiscal guidance issued by the SecDef in his Defense Guidance needs to be closer to the amounts eventually passed by Congress. As the difference between these two

numbers grows, the need for reassessment of earlier prioritizing decisions increases, but is seldom if ever conducted. It simply can not be assumed that the products of the PPBS (and thus the intended outputs) are not being detrimentally altered by ever-increasing budget cuts. Incidentally, unplanned increases in defense spending can have the same effect on outputs because the extra resources are not being utilized as efficiently as possible. [Ref. 4:p. 499]

4. Lack of Emphasis on Outputs

Although designed to provide "output-oriented programming", the emphasis is in fact on inputs. Output oriented issues are the "four pillars" (readiness, sustainability, modernization and force structure) as well as joint capability and contingency management. Instead the players in the PPBS are mired in procurement documentation, budget hearings and manpower issues. These are all input related. Until the players in the process are freed up to focus efforts on output, they will be forced to deal with the issues that are most pressing: inputs. [Ref. 4:p. 502]

5. Length, Complexity, and Instability of the PPBS

Spread over a 15 month cycle, the phases of the PPBS are overlapping and intertwining. Military decision makers have responsibilities outside the realm of PPBS. Time management requires them to devote attention where it

is needed most (or perceived to be). This is part of the reason that planning gets such cursory attention. [Ref. 4:p. 505]

## C. MARINE CORPS POM ISSUES

The major weaknesses of the Marine Corps POM process are, in fact, the criticisms levied against program budgeting. In his assessment of budgeting, "The Politics of the Budgeting Process", Aaron Wildavsky described program budgeting as an attempt to "relate ends to means in a comprehensive fashion". [Ref.18 p.135] Ironically, program budgeting was seen as possessing characteristics opposite those of the traditional budgeting approach: Program budgeting is comprehensive and emphasizes policy decisions whereas traditional budgeting is incremental, focusing on pieces and "veiling" policy. Wildavsky (pp.135-138) summarized program budgeting with these principal flaws:

a. This approach tends to <u>decrease</u> agreement between the participants.

b. The burdens of calculation are markedly increased.

c. The outcomes or decisions of the process would be different from those reached in the traditional approach.

This prophetic synopsis took the position that the likely consequences of program budgeting would be the magnification of gains and losses to program advocates to such an extent that conflict would reign and the "

war of all against all" would be the likely result. [Ref. 18:p. 138]

Granted, this is a rather bleak forecast for this "revolutionary" reform, but the parallels to the POM process are worth examining. The goal of relating ends to means on a comprehensive scale is a rather idealistic approach to resource allocation. Given the fact that a purely political body, Congress, makes final decisions on defense budgets severely limits the prospects for success.

Although initially hailed as the solution to the problems of all federal agencies, program budgeting (PPBS) has survived only in the DoD. Perhaps the reason for its longevity is, due to the DoD's majority interest of discretionary dollars, program budgeting affords the Congress the opportunity to scrutinize programs to a level of detail unattainable by any other approach. That the burdens of calculation have increased is evidenced by the huge analytical staffs employed by Congress. [Ref. 17:p. 94] By keeping the PPBS for the DoD, Congress in effect requires them to justify every program in a comprehensive, means-ends fashion. Marine Corps POM initiatives are no exception, and what this approach fosters is the present-oriented emphasis that results in a futile planning phase.

The faults of the program approach are evidenced by the Marine Corps ammunition initiative. Disagreements over the amounts of PWR munitions are numerous. The utilization rates developed by the Class V(W) methodology are hotly

debated between the PWR monitors and the Requirements & Programs Division. The burden of proof seems to be on the few individuals responsible for the PWR. Regardless of whether the arguments for increased ammunition dollars are airtight, if Congress avoids the issue by cutting the Procurement, Marine Corps appropriation and ammunition requirements will suffer. Because the PWR is such an elusive goal with numbers in flux from one year to the next, when the budget is constrained, it is very hard to convince decision makers that the attainment of proper levels in the PWR is an urgent requirement. The top priority goes to training ammunition (readiness) and until it is adequately funded, funds for sustainability tend to get less attention. Amounts for training are easier to calculate whereas the PWR is very difficult to quantify, thus the burdens of increased calculation become an obstacle.

The cycle exists that when resources are available, such as early in the Reagan administration, ammunition gets respectable attention. Perhaps this is because most present-oriented programs and "inputs" are adequately funded and the opportunity presents itself to assist neglected areas. Whether these prosperous budgets are enough to close any "sustainability gap" that may have grown is really never investigated. Without a standard or goal to measure performance, the system lacks the direction to self-correct. However, as soon as resources become

tight, procurement and hence ammunition are the first areas to look for cuts. Again, the balance between readiness and sustainability tilts in favor of readiness and the present.

The Marine Corps method of programming does have strengths because of the small size of the service and its stated reliance on the overall benefit to the Corps as a criteria for allocation. However, because means-ends programming is required, it suffers from the aforementioned, inherent weaknesses.

The effects of these flaws are best illustrated by the output "sustainability" and specifically a measure of it--the PWR. The next section will examine the status of ammunition and the ability of the U.S. to sustain its forces in combat with adequate quantities of munitions.

## D. AMMUNITION ISSUES

To make a force sustainable in munitions, a choice can be made between two alternatives. First is the option to maintain adequate stockpiles of ammunition (PWR) in the belief that a short, intense conventional war will be fought that either ends quickly or escalates into nuclear war. The second choice is to maintain an industrial base with the capability of supplying ammunition in sufficient quantities before pre-war inventories are depleted.

What exists is a present-oriented strategy (PWR) and a future oriented strategy (industrial base maintenance) within the sustainability issue of ammunition.

When discussing the problems of attaining the goals set for the PWR at Headquarters, Marine Corps, the unanimous opinion of the officers responsible for monitoring the PWR was that there is a general assumption among decision makers regarding the production of ammunition that is incorrect: that ammunition is the first to get cut and the last to "get well" because the production "faucet" can be turned on if a bona fide need arises. Thus, there is no reason to sacrifice hardware and current capability for ammunition inventories. If the situation presents itself, a source of ammunition will be found and utilized. This section investigates this stockpile/industrial base trade-off as it applies to ammunition.

The decision to achieve the right mix of reserves and production capability is not an "either/or" situation. Over-reliance on our nuclear capability to deter conflicts of less-than-nuclear size invites adversaries to exploit the scenarios one is least prepared to conduct. Small, "low intensity" conflicts have to be met with the forces-in-being. War reserves must be adequate to handle these flare-ups, with the caveat that a low level conflict may become a protracted, conventional war. In short, to ensure there are no weaknesses for adversaries to exploit, one must maintain forces capable of reacting to all levels of conflict.

If one emphasizes the PWR, it should be understood that this favors the "short war" philosophy and invites neglect

of the capabilities required to counter protracted wars. Conversely, neglecting the PWR and relying on the industrial base to overcome shortages is a gamble that assumes there is enough ammunition in inventory to sustain the forces until industry can begin to take over replenishment. This concept is referred to as "D-to-P", meaning the inventory will last from the beginning of hostilities (D-day) until production (P) takes over. [Ref. 19:p. 16]

The key to a successful "D-to-P" strategy is the accurate estimation of wartime consumption rates. If these rates are accurate, the computation of the PWR necessary to sustain the forces for the D-to-P period is rather simple. But how long is the D-to-P period? This is based on an estimation of the industry's ability to surge to wartime production rates.

It becomes evident that to be "ready", one requires an adequate PWR and a capable industrial base. The current "gaps" between PWR and industrial base production vary between different types of munitions. Some types may be very close to the 60 day goal and easily "surged" while others are considerably less than 60 days and may require a longer time period until surge capability is achieved.

The "D-to-P" concept was used during the 1950's and 1960's, but was scrapped in favor of the "D plus 6" concept. This strategy holds the military responsible for

the first six months of a conflict and industry would sustain the forces from D plus six months on. [Ref. 19:p. 14]

In summary, the industrial base is a direct measure of the nation's economic power, which is critical to its success in a major conflict. If the cost of buying and maintaining an adequate PWR is too large during shrinking budget cycles, then the industrial base must be capable of compensating for the shortfalls in inventory and vice versa. As long as no gap exists, sustainability is achieved. However, this would call for a link between government and industry that does not currently exist.

The DoD has become more active in recent years in industrial preparedness planning, but the vital connection with industry is still missing. The general opinion of industry is that government is not serious about surge planning, evidenced by a lack of funds, confusing data on priorities and the lack of a centralized focal point for this type of planning in government. [Ref. 20:p. 26]

Thus, the "shock waves" of poor planning are felt at the output level of the PPBS. This chapter has shown that the environment of the PPBS has flaws that affect first the programming process (POM) and thereby the output "sustainability". Chapter V will discuss the author's conclusions and some possible recommendations that may improve this process.

# V. CONCLUSIONS AND RECOMMENDATIONS

## A. GENERAL

The issues surrounding ammunition sustainability in the Marine Corps as an output of the PPBS have several sources. To best understand the problems that plague the ammunition initiative, this thesis has addressed the PPBS environment as a whole, the Marine Corps ammunition requirement generation process, the POM process in the Marine Corps and the major criticisms leveled against these items. Conclusions about this topic fall into two general categories: those that deal with processes and those that pertain specifically to ammunition.

## B. PROCESS RELATED CONCLUSIONS

These conclusions are drawn from material that relates to the PPBS, requirement generation and the Marine Corps POM.

### 1. PPBS Related Conclusions

The PPBS was instituted to assist an administration in gaining the maximum capability for the fewest dollars during an era that was driven by a perceived need to build up conventional forces along with an ongoing increase in nuclear forces. The ills that accompanied this experiment in program budgeting have since made their presence known.

The PPBS ". . .has come to be seen as a strategy in itself, with less focus within the organization on the nature of the competition." [Ref. 21:p. 11] Because of its focus on budgeting and the present, the PPBS is "dominated by platform considerations and constrained by its nature to describe the future. . .in terms of replacement, modernization, and retirement of major hardware items." [Ref. 21:p. 11]

Two factors are undeniably present in the future of resource allocation decisions: the national debt will dominate the process and the pressures of increased social spending will increase as our baby boom population ages. With these factors in mind, the allocation of funds for defense spending will be more constrained than in the past and, at the very least, will get even more scrutiny. The PPBS, as it currently operates, will not facilitate the most efficient use of these resources. With programming and budgeting driving the process, the likely outcome will be to maintain current force sizes and delay vital R&D and modernization. [Ref. 22:p. 57]

Much attention has been devoted to the lack of a comprehensive strategic goal in national security policy. While it is apparent that many of the weaknesses of the PPBS can be traced to this root cause, correcting this flaw will not solve all of the problems of the PPBS. Congress has exhibited a stop-and-go pattern of defense spending that reacts to the presence or absence of a crisis

situation. Because it is a political body, Congress acts according to the sentiments of constituents. National security is too important to be so reliant on public opinion. This situation is the cause of the erratic spending record on defense.

For the PPBS to work efficiently, it must be given a goal and the formal process followed, with planning driving the system.

To combat the ill effects of stop-and -go spending, a stable percentage of GNP should be devoted to defense. This amount or percentage should be taken out of the hands of Congress once it is decided what it should be. If Congress wants to have more to say about discretionary spending, then it should increase the size of this category by digging into some of the entitlements that exist. Only with the assurance that slow, steady growth will be maintained is it possible for planning to be productive in the long run.

In the absence of any major structural changes to the PPBS or defense spending policy, the current emphasis on the short-term will continue. The focus will remain on hardware and platforms because they are quantifiable and, although a near-term objective, an achievable goal nonetheless.

One of the expected ills of program budgeting was increased burdens of calculation. When referring to calculations, one is basically referring to analysis.

Most analysis takes place during the programming phase of the PPBS, or the POM process. The next section discusses conclusions regarding analysis and the POM process.

2. POM Related Conclusions

The Marine Corps POM process contains all the requisite checks and balances to ensure that resources are allocated efficiently given the assumption that planning is the catalyst of the process. However, as has been discussed, the PPBS is short sighted and budget oriented. In his memorandum on analysis in general, James Schlesinger pointed out the following:

> Truth becomes only one of a number of conflicting objectives and, sad to relate, oftentimes a secondary one. . .unfortunately, the emphasis tends to shift to a search for the winning argument as opposed to the correct conclusion. [Ref. 23:p. 1]

This problem is especially evident in the programming phase. With short (three to four years) tours as participants in the POM process, most officers do not measure their performance in relation to the vague "outputs" that can barely be defined much less quantified.

To achieve something measurable in a short period of time, energy gets directed at the POM and subsequently the budget. Hardware translates into accomplishment; tangible evidence that a considerable amount of effort was expended successfully.

But what about the support necessary to translate this new hardware into useful capability? The ammunition in the PWR is a perfect example of an initiative that lacks

the glamour and "sex appeal" to command a large advocacy in the POM process. Sustainability is also intangible in many respects.

Ammunition, and thus sustainability, along with other unappealing yet vital elements of national security would not be as subject to neglect if the PPBS worked properly. Again, quoting Schlesinger:

> Analysis is a useful tool, but it is only a tool. It would be a mistake to turn over a new proverbial leaf--and generally find fault with tools rather than craftsmen. [Ref. 23:p. 2]

Therefore, the author does not fault the Marine Corps POM process for methods it uses to prioritize and allocate resources. Every effort is made to efficiently match available resources with legitimate objectives. The breakdown comes as a result of the lack of long range strategic planning and goals. The scramble for resources is a characteristic of programmed budgeting, and a symptom of the faults that lie with the PPBS.

3. Ammunition Requirements Related Conclusions

The issues that arise regarding rates of ammunition usage during combat are difficult to resolve. It is hard to make this type of estimate. If experience is any indication of the future, U.S. forces usually expend more ammunition than was predicted. Since the Marine Corps depends on its readiness, it would seem prudent to have more than required in the PWR.

Since the rates generated by the Class V(W) methodology determine the ultimate amounts of munitions in

the PWR, this model warrants close scrutiny. The output of this model immediately gets translated into dollars, and are often judged on that basis too quickly. So much depends on these figures that the Marine Corps can not afford to judge them based solely on their affect on the bottom line of the budget.

Instead, the amounts generated by the model should be accepted as valid and proven to be incorrect if faults are found within the methodology. Again, if sustainability were recognized as being on an equal footing with the other "pillars of defense" this issue may never arise.

In the same manner that U.S. defense spending is rendered inefficient by stop-and-go spending trends, the Procurement, Marine Corps appropriation is also erratic. Without sustained, gradual growth in procurement, and thus ammunition spending, the PWR will suffer because training requirements will have priority over the PWR. To adequately prepare for future sustainability, monitors of the PWR must be able to plan ahead. The current trends in procurement spending do not permit this.

## C. AMMUNITION RELATED CONCLUSIONS

The missions of the Marine Corps are present-oriented and require it to be, above all other attributes, ready to go to war. Because this is true, the Marine Corps concentrates much of its resources towards the "short war" philosophy. The industrial base and its maintenance are

future-oriented, sustainability issues. Because of this, the Marine Corps should not be overly concerned with surge capability of munitions producers. When the Marine Corps is called upon to perform a mission, it will probably do so with the forces and munitions it possesses at the time.

The PWR, although a sustainability issue, is not future oriented. The PWR enhances the Marine Corps posture for the short war scenario. If this perspective is utilized, the Marine Corps should view the PWR as an issue vital to its performance and not as a long range, "nice to have but not necessary" luxury.

The adequate funding of the PWR maintains the Corps' ability to be a serious threat in the short war scenario. To rely on a level of sustainability too far below the 60 days of ammunition mandated in the DG may relegate the Marine Corps to participation only at the "low intensity" level of conflict.

## D. RECOMMENDATIONS

As the environment of constrained resources continues, and under the assumption that the PPBS will remain as the DoD's resource allocation process, the author feels that there are certain actions that could make the system more flexible and responsive to ammunition sustainability.

### 1. PPBS Related Recommendations

Without constant levels of defense spending, the planning phase will remain the weaker of the three phases of the PPBS. However, steps can be taken to make more

efficient use of resources when the political climate favors defense spending. Stop-and-go spending is most inefficient when planners use constant levels to estimate future allocations. This is a costly assumption. What should be assumed is that defense spending will continue to be erratic. When the need arises, such as in a crisis, the Defense Department should have strategies to respond to the sudden availability of funds instead of reacting at the last moment and thereby encouraging inefficient spending.

Also, adherence to the 60 days of ammunition requirement in the DG should be enforced and not altered. If this SecDef target is changed either in the number of days or the date, the PWR will suffer even more than it does now. Once the participants in the PPBS know that an objective is real and not ambiguous, the incentive will exist to achieve it.

2. POM Related Recommendations

The Marine Corps POM process achieves the right mix of analysis and subjective judgement. The participants, although acutely aware of the need for balance, tend to be biased toward present oriented hardware initiatives. Although this is common to program budgeting in general, it should be analyzed and discussed to ensure the interests of the Marine Corps are best served by this approach.

If current threats appear to outweigh future ones, this is the correct method of preparation. But if the

present is overemphasized, the service is committing itself to being reactive instead of proactive.

3. Ammunition Related Recommendations

Higher priority should be given to ammunition in the prioritization process. Readiness is directly affected by ammunition expenditures, whether for training or for the PWR.

If the Marine Corps is committed to a low intensity conflict, ammunition can be obtained from other sources if required. But the Marine Corps needs the capability to enter combat with its own resources regardless of the level of the conflict.

Since the procurement appropriation absorbs the largest share of budget cuts, ammunition is always at risk. However, ammunition should not be automatically cut. If ammunition were perceived as readiness related, which it is, it should fare better.

## E. RECOMMENDATIONS FOR FURTHER STUDY

As recommendations for further study, the author believes the following areas could be investigated:

1. Class V(W) Methodology

A thorough investigation into the model used to generate ammunition requirements would be beneficial. By tracking the development of the various versions of this model along with the underlying assumptions of each iteration, a clearer understanding of why these rates are disputed could be achieved.

2. Marine Corps POM Process

Because each service is free to program resources in the manner it feels is best, a comparison between the Marine Corps and any or all of the other services would be enlightening.

3. Procurement, Marine Corps Appropriation

An investigation into the trends in procurement spending in the Marine Corps may reveal more of the reasons that ammunition gets cut so severely.

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